3 Lecture - CS302

Important Mcqs

1. **Which of the following is a characteristic of floating-point numbers?**
   A. They can only represent integers
   B. They have limited precision
   C. They cannot represent negative numbers
   D. They are only used in scientific applications
   Answer: B

2. **What is the significand of a floating-point number?**
   A. The scale of the number
   B. The precision of the number
   C. The number of digits in the number
   D. The exponent of the number
   Answer: B

3. **Which of the following is an example of a floating-point number?**
   A. 10
   B. 3.14159
   C. 1000
   D. 1/3
   Answer: B

4. **What is the exponent of a floating-point number?**
   A. The scale of the number
   B. The precision of the number
   C. The number of digits in the number
   D. The power of 2 used to scale the number
   Answer: D

5. **Which of the following is true about the precision of floating-point numbers?**
   A. It is fixed for all floating-point numbers
   B. It varies depending on the magnitude of the number
   C. It is always greater than the number of bits used to represent the number
   D. It is not relevant to the representation of floating-point numbers
   Answer: B

6. **What is the largest value that can be represented by a 32-bit floating-point number?**
   A. 10^38
   B. 10^308
   C. 3.4028235 × 10^38
   D. 1.7976931348623157 × 10^308
   Answer: C

7. **What is the smallest value that can be represented by a 64-bit floating-point number?**
   A. 10^-308

B. 10^-38
C. 1.7976931348623157 × 10^-308
D. 3.4028235 × 10^-38
Answer: C

8. **Which of the following is a potential issue with using floating-point numbers?**
A. They cannot represent negative numbers
B. They have limited precision and can result in rounding errors
C. They are too complex to use in programming
D. They are not supported by modern computer hardware
Answer: B

9. **What is the IEEE 754 standard?**
A. A standard for representing binary numbers in decimal form
B. A standard for representing floating-point numbers in computer systems
C. A standard for representing integers in floating-point form
D. A standard for representing rational numbers in binary form
Answer: B

10. **Which of the following is an advantage of using floating-point numbers?**
A. They are easy to represent and manipulate in computer systems
B. They can represent a wide range of numbers with high precision
C. They can only be used for scientific applications
D. They are not affected by rounding errors or precision issues
Answer: B